

REMARKS

Claims 1-16 have been examined. Claims 1-5, 8 and 15 have been rejected under 35 U.S.C. § 102(b) and claims 6, 7, 9-14 and 16 have been rejected under 35 U.S.C. § 103(a).

I. Preliminary Matters

The Examiner has objected to claim 8 due to a minor informality. Accordingly, the Applicant has amended claim 8, along with the corresponding disclosure on page 11 of the present Application, in accordance with the Examiner's suggestion.

Further, Applicant has amended certain instances of the term "attack" to "etch" in the specification for clarification. Applicant submits that one skilled in the art would understand that such amendment does not constitute new matter.

Also, the Examiner has not marked box 12(a)(3), on the Office Action Summary, indicating that the priority document has been received from the International Bureau. Accordingly, Applicant respectfully requests the Examiner to mark the appropriate box in the next Office Action.

II. Rejections under 35 U.S.C. § 102(b) in view of WO 00/05749 to Bhardwaj et al. ("Bhardwaj")

The Examiner has rejected claims 1-5, 8 and 11-15 under 35 U.S.C. § 102(b) as allegedly being anticipated by Bhardwaj.

A. Claim 1

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites that the plasma of cleaning gas is more effective than the etching gas at removal of the protective polymer.

The Examiner has not indicated where the above feature is taught in Bhardwaj and Applicant submits that such feature is not taught or suggested by the reference. For example, Bhardwaj discloses that the stage of depassivation is carried out by a precursor gas plasma, by plasma of an inert gas such as argon, by plasma of halation or carbohydrate, by plasma of gas of the passivation itself, or by plasma of a gas of engraving (pgs. 11, 22 and 29). Another solution disclosed is the irradiation by an excimer laser (pgs. 23 and 29). On at least pages 5-7 and 10, Bhardwaj discloses examples of etching gases including fluorine and pure halogen compounds. Applicant submits, however, that none of the materials used during the depassivation stage (i.e., the cleaning gases) are more effective than the disclosed etching gases at removal of a protective polymer. Thus, Bhardwaj fails to teach or suggest every feature of claim 1.

In view of the above, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claim 1.

B. Claims 2-5, 8 and 11-14

Since claims 2-5, 8 and 11-14 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 15

Applicant submits that claim 15 is patentable over the cited reference. For example, claim 15 recites control means for controlling the gas injection means to perform the successive application of etching gas, passivation gas, and cleaning gas. Applicant submits that such feature is not taught or suggested by Bhardwaj. If the Examiner wishes to persist in the above rejection, Applicant respectfully requests the Examiner to specifically indicate where the claimed control means is taught in Bhardwaj.

III. Rejections under 35 U.S.C. § 103(a) in view of Bhardwaj and U.S. Patent No. 6,846,746 to Rattner et al. (“Rattner”)

The Examiner has rejected claims 6 and 7 under 35 U.S.C. § 103(a) as allegedly being unpatentable in view of Bhardwaj and Rattner. However, since claims 6 and 7 are dependent upon claim 1, and Rattner fails to cure the deficient teachings of Bhardwaj, in regard to claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

IV. Rejections under 35 U.S.C. § 103(a) in view of Bhardwaj and U.S. Patent No. 6,136,214 to Mori et al. (“Mori”).

The Examiner has rejected claims 9 and 10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bhardwaj in view of Mori.

Claim 9 recites that the silicon substrate is biased by a voltage in a range of 20V to 80V.

The Examiner acknowledges that Bhardwaj fails to disclose the claimed bias voltage range, but contends that Mori does. The Examiner refers to column 13, lines 4-15 of Mori. However, such portion discloses that the voltage should be in the range of 0V and -50V. There is no suggestion that the voltage should be above 0V or in the claimed range of 20V to 80V. Rather, the reference teaches that the voltage must stay below 0V. For example, to accelerate positively charged ions requires “at least” the use of a *negative* bias, i.e., a voltage below 0V (col. 12, lines 33-35). Accordingly, based on the teachings of Mori, there is no suggestion to use a bias above 0V. Further, the Examiner briefly mentions “routine experimentation.” However, even if Applicant assumes *arguendo* that the bias voltage is a result effective variable, the teachings of Mori would motivate one skilled in the art to experiment with voltages below 0V, rather than voltages in the claimed range.

Further, in regard to claim 10, Mori fails to teach or suggest the feature of progressively increasing the bias voltage from one cleaning step to the next.

In addition, since claims 9 and 10 are dependent upon claim 1, and Mori fails to cure the deficient teachings of Bhardwaj, in regard to claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

Based on the foregoing, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claims 9 and 10.

V. Rejections under 35 U.S.C. § 102(b) in view of Bhardwaj

The Examiner has rejected claims 11-14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bhardwaj. However, since claims 11-14 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

VI.) Rejection under 35 U.S.C. § 103(a) in view of Bhardwaj and U.S. Patent No. 6,277,756 to Ohara et al. ("Ohara").

The Examiner has rejected claim 16 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bhardwaj in view of Ohara. However, since claim 16 incorporates the features of claim 1, and Ohara fails to cure the deficient teachings of Bhardwaj, in regard to claim 1, Applicant submits that such claim is patentable at least by virtue of its dependency.

VII. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

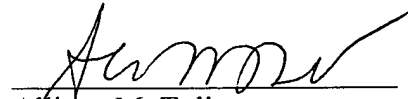
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Respectfully submitted,



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